

# IEPD Factory Features

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The following lists the features of IEPD Factory as of release 3.38. This release supports NIEM 3.0. Details can be found in the on-line Users Guide.

- Visually model NIEM schemas
  - IEPD file and folder structure
  - Schemas: Extension, Domain, Exchange (aka Message), Reference, and Codelist
  - Import schema namespaces (NIEM-conformant and non-conformant)
  - Simple Types, Complex Types, Elements, Attributes, and Attribute Groups
  - Root Element and Abstract Elements
  - Enumerations (individually or using/creating external codelist files)
  - Sequences and Choices
  - Type inheritance by reference, extension, or restriction
  - Constraint facets (range, length, format, decimal, cardinality, & codelist) applied to Simple Types, Elements, Attributes, and Attribute Groups
  - Constraint Sets for grouping Constraint facets
  - Multiple Constraint Sets per schema
  - NIEM Augmentation, Association, and Reference type structures
  - Want List
  - Catalog
  - Schematron schema (for business rules, including full ISO Schematron with additional features to facilitate creating and re-using Schematron and XPath queries)
- Codelist Management
  - Define & manage codelists and associated metadata
  - Import codelists from NIEM spreadsheet form
  - Schema-defined codelist files
  - Schema-defined codelist register
  - Codelist files defined in MPD catalog
  - IEPD Factory XML models are linked to physical codelist files
  - Generation of codelist reports
- Import existing IEPD Artifacts to visual model
  - Schema model from CMT spreadsheet
  - Codelist spreadsheets
  - XML Schema (.xsd) files
- Automatically generate IEPD Artifacts
  - Exchange Schema
  - Extension Schema
  - Constraint Schema (Extension, Exchange, and Domain)
  - Codelist Schema
  - Wantlist (specifies subset schema)
  - Catalog (in MPD format or MS Word/HTML)

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- Schema Outline
- Element & Attribute Dictionary
- Codelist tables
- Sample Message Template
- Component Mapping Template
- Schematron Schema (generate modeled schema and combine both modeled and un-modeled schema into a combination schema)
- Check for common errors in one schema or multiple schemas
  - Unsequenced Elements
  - Untyped items
  - Invalid cardinality
  - Unreferenced Types
  - Cyclic references
  - Redundant typing relationships
  - Duplicates
  - Invalid Augmentation, Association, or Substitution Group
  - Constraints applied incorrectly, or to the wrong type, or incomplete
  - Invalid use of default or fixed values for Attributes
- Online User Guide (Provides detailed information on all aspects of XML structures and functionality in IEPD Factory)
  - IEPD Factory object and relationship types and their properties
    - XML Schema modeling, including codelist management
    - Schematron business rule modeling
  - Importing XML Schema and codelists
  - Generating IEPD XML files, including XML Schema, codelist files, Schematron schema, and combined Schematron schema, Catalog, and Wantlist
  - Generating IEPD documents, such as the Master Document, Component Mapping Templates, etc.
  - Using the Wantlist to generate reference subschemas, facilitating re-use of existing NIEM components
  - Provided in compiled help (.chm) and PDF formats